University of Washington Medical Center	Original Effective Date: 03-14-2016	Number: PC-0054.043
1959 NE Pacific Street. Seattle, WA 98195 Transfusion Services Laboratory Policies and Procedures Manual	Revision Effective Date: 05/21/2111-28-2022	

TITLE: **Emergency Release of Blood Products**

PURPOSE:
To provide instruction for preparing and releasing universal donor products including uncrossmatched group O red blood cell components (RBC) in emergency situations when the patient's clinical condition warrants transfusion before the testing is completed

PRINCIPLE & CLINICAL SIGNIFICANCE:
The laboratory must have a process in place to provide blood components including uncrossmatched RBCs for rapid delivery to patient care areas

Clinical Significance:
Rapid replacement of RBCs during bleeding events can be critical for preventing brain damage and cardiac arrest associated with hemorrhage. Platelets, plasma and cryoprecipitate AHF are used to support coagulation and hemostasis.

POLICIES:
- All orders must be authorized by a physician with a signed statement that the patient's condition warrants transfusion of RBCs prior to the completion of compatibility testing (*Emergency Release of Uncrossmatched Blood* form to be provided with the RBCs for signature)
- The Transfusion Service Laboratory (TSL) will maintain the following:
  - 4 O Negative leukoreduced irradiated RBCs (BB & BB2)
  - 4 O Positive leukoreduced irradiated RBCs (BB & BB2)
  - 1 O Negative leukoreduced irradiated RBC (≤ 7 days old, ≤ 3 days irradiated, Hgb S neg) (BB location only)
    NOTE: In the absence of a freshly irradiated O Negative neonatal RBC, a freshly collected non-irradiate RBC should be provided to reduce the risk of high potassium concentrations in the extracellular fluid.
  - 2 units of thawed AB plasma (BB & BB2)
- O negative Leukoreduced RBCs units will be provided for:
  - Any patient known to be Rh negative regardless of sex or age
  - Females <50 years of age
  - Pediatric patients <15 years old
- O positive Leukoreduced RBCs units will be provided for:
  - All males over ≥15 years of age
  - Females of ≥50 years of age
  - Transfusion Services Medical Director on-call will determine appropriate RhIG administration
- In cases where inventory of O neg RBC is low or greater than 6 O Neg RBCs have been issued during emergency, contact the TSL MD on call for consideration and approval to release O Pos RBCs

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- 1 O Negative leukoreduced irradiated RBC (≤ 7 days old, ≤ 3 days irradiated, Hgb S neg) will be provided for:
    - Neonatal Bleeding Emergency
    - Emergency Intrauterine Transfusion (IUT)
- Group AB plasma is considered universally compatible for all patients including neonates
- Group AB platelets are considered universally compatible for all patients. Group A may be substituted if AB are not available and any type PAS platelets are the third choice
- Cryoprecipitate may be given without regard to ABO type with the exception of infants
- Request for emergency release products may be made by phone, in person, or via CPOE
    - Verbal Orders (read-back required):
        - Component Orders: Document the following on a *Transfusion Services Test & Blood Product Request Form*: Patient name and MRN, ordering physician, number and type of blood components requested. A written or signed order will be obtained after the event.
        - Delivery Orders: Patient information (name and medical record number) must be verified upon release to provider or care area
- If a current crossmatch eligible battery is available and patient qualifies for electronic crossmatch, crossmatched RBCs may be provided if doing so does not cause delay
- Notify TSL MD on call when blood products are provided using emergency release process

SPECIMEN REQUIREMENTS:
Every attempt should be made to collect an EDTA specimen (6 ml) from the patient prior to blood administration

REAGENTS/SUPPLIES/EQUIPMENT:

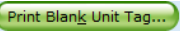| Reagents:	Supplies:	Equipment:
NA	- Uncrossmatched Blood Stickers - Emergency Release Transfusion Records - Test tubes for unit segment retention - Emergency Release of Uncrossmatched Blood Form	- BB LIS - Portable Blood Refrigerator

QUALITY CONTROL:
NA

INSTRUCTIONS:
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Preparing Stock Uncrossmatched RBCs and Plasma

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Step	Action
1	Affix an "**Uncrossmatched Blood**" label on each RBC component being prepared: **NOTE:** ~~If preparing uncrossmatched RBCs for immediate issue, selection of irradiated RBCs is unnecessary with the exception of patients with the irradiation attribute and neonatal patients. Emergency issue units for these patients need to be irradiated unless the ordering physician states they **CANNOT** wait for irradiation.~~ <u>Emergency issue units should be irradiated, however in the event that irradiated units are not available, release of emergency units should not be delayed for irradiation</u>
2	Label a test tube for each RBC with a unit number and place a labeled segment from the corresponding RBC in the tube
3	Record the unit numbers on both an *Emergency Release of Uncrossmatched Blood* form and *Downtime Issue Log* for each set
4	Update the location of both RBCs and plasma in SQ to EMR or EMR2 as appropriate. See SOP: *Transferring Components Between Inventory Locations at UWMC*
5	<u>Use the Blood Product Entry function to print a blank unit tag for each unit</u> • <u>Open Blood Product Entry</u> • <u>Select <Print Blank Unit Tag></u> [Print Blank Unit Tag...] ~~Us~~ • <u>Scan component donor ID and Product Ecode</u> • <u>Select <Ok></u>~~e the TAG function in SmarTerm to print a Transfusion Record for each unit with the donor unit information and attach to the back of each unit (refer to SOP *Using TAG for Printing Transfusion Records*)~~
6	Place the components, segment test tubes, Transfusion Records, *Emergency Release of Uncrossmatched Blood* and the *Downtime Issue Log* forms together in the appropriate monitored blood refrigerator
7	Monitor prepared components and replace RBC components with less than 10 days to expiration when inventory levels allow. Plasma should be released into general inventory in a timeframe to allow transfusion to other patients prior to expiration

Issuing Emergency Blood

Step	Action
1	• Receive request for an emergency release and write down the following information on the *Transfusion Services Test & Blood Product Request* form: o Patient name o Patient MRN (If necessary, use maternal MRN as a placeholder until the infant has been assigned a MRN) o Sex, if new arrival in ER o Ordering Physician o Blood products requested o Patient Location • Perform a verbal read-back • <u>Print Patient Labels using BAR function in SmarTerm</u> **NOTE:** Attempt to obtain more information if time permits such as expectations for product pick-up or delivery by TSL staff and severity of emergency
2	Review the patient's history in Blood Bank Inquiry (BBI) to determine if patient has a historical ABO/Rh on file or a current specimen for RBC crossmatching

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Step	Action
	NOTE: Type specific plasma may be provided based on historical ABO/Rh when doing so will not cause delay

If patient	Then
Is Rh negative based on historical ABO/Rh	Give Rh negative RBCs regardless of sex and age
Patient testing is incomplete and/or patient does not qualify for electronic crossmatch	Issue uncrossmatched units: • Retrieve the prepared uncrossmatched units from the blood refrigerator • Remove test tubes with segments and retain for testing • Label the Transfusion Record with a patient label (~~N~~name and MRN) if time allows **NOTE:** ~~If not completed, nursing staff will adhere an ORCA label on bottom left corner at time of infusion~~ • Perform the visual inspection • Document the issue process on the Downtime Issue Log
Has 2 ABO/Rh results on file (one on a current sample) and qualifies for Electronic Crossmatch • TXM • TSCR • TSCREX	Crossmatch components unless doing so would result in a delay in providing components (refer to SOPs *Electronic Crossmatch* and *Issuing Blood Components*) **NOTE:** It is not necessary to crossmatch components from stocked uncrossmatched packs. Use the "Blood Inventory Search" function to locate compatible units.
Patient has a history of clinically significant alloantibodies	Notify the patient's provider to determine if emergency release can be delayed until antigen negative units can be provided **NOTE:** Notify TSL Medical Director if uncrossmatched RBCs were released prior to antigen testing

Step	Action
3	• Record the patient name and MRN on the E*mergency Release for Uncrossmatched Blood* forms • Line out and initial and date the unit numbers of any components listed but not issued • Make a copy of the form and attach to the *Transfusion Services Test & Blood Product Request* form • Send the original to the patient care area for physician's signature
4	**Obtain physician's signature on the Emergency Release form** (when sent):

If	Then
Physician signature is obtained	Route for management staff review
Unable to obtain signature	Another staff member may sign the designated area at the bottom of the form accepting the receipt of the units "Signature of person accepting blood when

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Step	Action
		provider is unavailable to sign at time of delivery" and the form will be routed back for physician signature by TSL department management at a later time

Rotating Uncrossmatched Units Back to Inventory

Step	Action
1	Update the location back to the appropriate general inventory location according to SOP: *Transferring Components Between Inventory Locations at UWMC*
2	Remove any "Uncrossmatched Blood" stickers from the units and discard any associated paperwork and segment test tubes
3	Return the unit to general inventory shelves

CALCULATIONS/INTERPRETATIONS/RESULTS REPORTING/NORMAL VALUES/CRITICAL VALUES:

The ordering physician and the TSL MD must be notified immediately of any incompatible crossmatches detected following release of uncrossmatched blood

CALIBRATION:
NA

NOTES AND LIMITATIONS:
- A *Downtime Issue Log* will be labeled with unit numbers for stock thawed plasma held for MTP activation and the log stored with the plasma. As plasma is rotated into regular inventory to prevent waste due, the log should be discarded.
- Irradiated components are not required due to the emergency release, but are stocked for convenience due to the high percentage of patients with Irradiation requirements.
- If type AB plasma is unavailable, type A should be used, then type B, and then type O (types A, B, and O plasma are not considered universally compatible)
- The "BAR" function in SmarTerm can be used to print patient demographic labels for use on the Transfusion Records and the Emergency Release of Uncrossmatched Blood Form
- The pneumatic tube system may be used to deliver up to two units or RBCs and 2 units of plasma to expedite delivery of the components.
- When a patient expires without receiving a specimen, order an "ER" battery in Sunquest to issue components and track disposition of any transfused components.
- All required pretransfusion testing should be completed as soon as possible upon sample receipt

REFERENCES:

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- Standards for Blood Banks and Transfusion Services, AABB Press, Bethesda, MD. Current Edition.
- Technical Manual, AABB Press, Bethesda, MD. Current Edition.

RELATED DOCUMENTS:
FORM Portable Refrigerator Log
FORM Emergency Release of Uncrossmatched Blood
FORM Transfusion Record
FORM Downtime Issue Log
SOP Preparing and Issuing Portable Refrigerators
SOP Issuing Blood Components
SOP Massive Transfusion Protocol and OB Hemorrhage Activation
SOP Blood Component Order Receipt and Processing Ordering Blood Components
SOP Using TAG for Printing Transfusion Records
SOP Electronic CrossmatchPatient History Check

APPENDICES:
NA

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UWMC SOP Approval:

UWMC CLIA Medical Director

Andrew Bryan, MD   Date

Transfusion Service Manager   Date

Nina Sen

QA Manager   Date

Tayler Reeves

Transfusion Service Medical Director   Date

Monica Pagano, MD

UWMC Biennial Review:

Date

Date

REVISION HISTORY:

04/20/17: Revision made to add RBC (<7 days) for emergency release to the NICU. Once implemented, a RBC will not be stored in the NICU refrigerator

01/11/21: Clarify issuing Rh-negative RBCs when patient is historically Rh-negative regardless of age or sex

11/18/22: Revised for neonate bleeding emergency and use of O Pos RBCs when O Neg RBC inventory is low. Call emergency bleeding to on call TSL MD

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